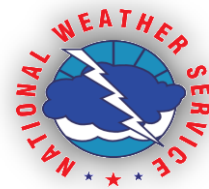




# *Major wind damage In Albemarle, Stanly County caused by a Microburst*



National Weather Service, Raleigh, NC

Report prepared on June 14, 2013

## **Event Summary**

A microburst caused by a severe thunderstorm impacted Stanly County, including the city of Albemarle and surrounding areas, on Thursday, June 13, 2013. The event occurred between 5:35 PM and 5:50 PM EDT. NWS Meteorologists estimate that straight-line wind speeds of 70 to 80 MPH were felt with this storm, which resulted in the widespread downed trees and associated damage across the area.

## **Storm Damage**

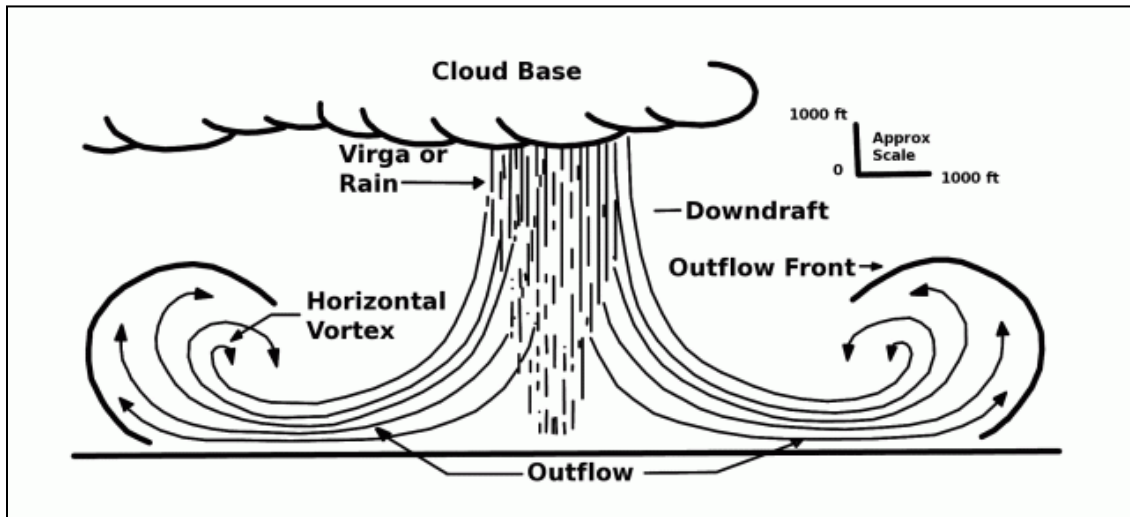


These photos demonstrate the type of damage that was associated with this microburst. Most of the damage consisted of uprooted trees, many of which subsequently damaged homes, vehicles, and other structures when they fell.

Photos courtesy of [wcnc.com](http://wcnc.com)

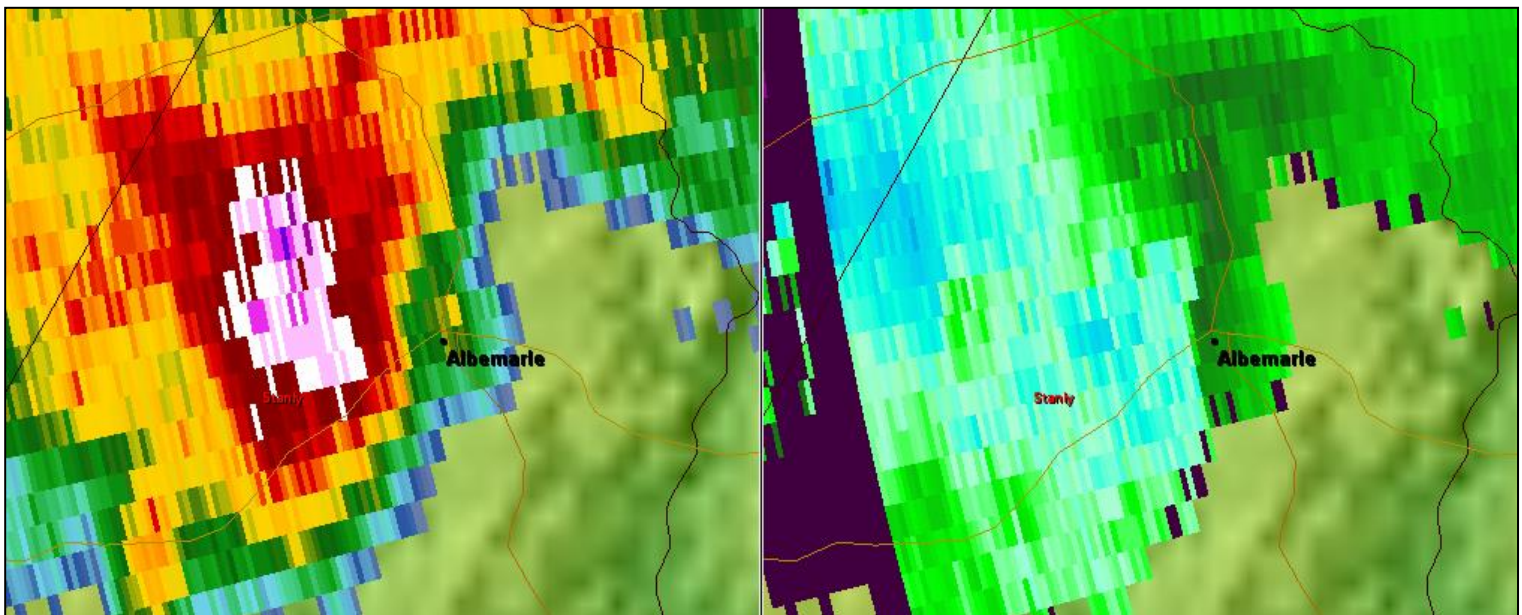
# What is a Microburst?

A microburst is a downdraft (sinking air) in a thunderstorm that is less than 2.5 miles in scale. Some microbursts can pose a threat to life and property, but all microbursts pose a significant threat to aviation. Although microbursts are not as widely recognized as tornadoes, they can cause comparable, and in some cases worse, damage than some tornadoes produce. In fact, wind speeds as high as 150 mph are possible in extreme microburst cases.



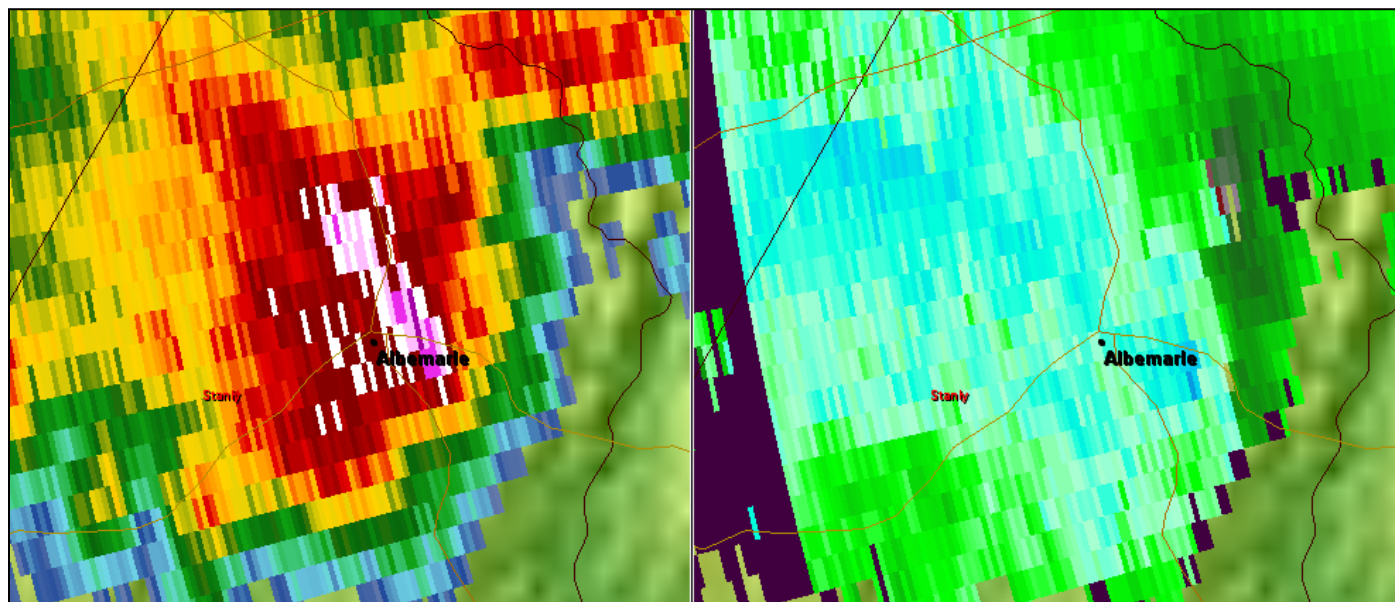
## Radar Data

The following two images are radar data from KRAX, covering central North Carolina. The image on the left is 0.5 degree base reflectivity, and the image on the right is 0.5 degree base velocity, at 5:38 PM EDT. A “wall of wind” was noted at the leading edge of the storm as indicated by the enhanced inbound velocity values. These strong westerly winds, which peaked around 75 mph at 9000 feet above the ground, were directed downward toward the ground as the intense precipitation (noted by enhanced reflectivity values on the left) collapsed over Albemarle. These are the key processes that produced the microburst, or damaging straight-line winds, in and near the town of Albemarle.





The radar images below are from 5:43 PM EDT. Note how the “wall of wind” surged east of Albemarle, in just 5 short minutes from the previous radar scan when it was still west of town. The aforementioned downburst processes continued, and additional damage was noted to the east of downtown Albemarle.



### **Other considerations for the microburst determination**

- Radar data lacked any evidence of rotation with the storm cell that caused the damage.
- The radar signatures of drying air and enhanced mid level winds intruding on the back side of the storm are commonly seen associated with downburst events. This was the case immediately preceding and during this particular event, as noted in the above radar data.
- The meteorological setup (environment) ahead of the storms favored intense downbursts.
- Trees that are completely uprooted is a common signature of intense straight-line winds.
- Based on aerial photos, there was no discernible “path” of destruction. Rather, the uprooted trees were more scattered in nature, and this is a common signature of damaging downburst or straight-line winds.

### **For more information**

To keep up-to-date on the weather across central North Carolina, please visit the NWS Raleigh online, on your phone, or on NOAA Weather Radio.

- Website: <http://weather.gov/Raleigh>
- Smart phones and mobile devices: <http://mobile.weather.gov>
- Facebook: <https://www.facebook.com/US.NationalWeatherService.Raleigh.gov>
- Twitter: <https://twitter.com/nwsraleigh>